

WHAT IS CLAIMED IS:

1. A film recorder comprises:
 - a film recording device configured to expose a frame of film media;
 - at least one flat panel display device configured to display at least one color component image associated with an image; and
 - an alignment unit coupled to the film recording device and to the display device, wherein the alignment unit is used to position an optical axis of the flat panel display device with respect to an optical axis of the film recording device such that the film recording device can expose the film media to the plurality of images.
2. The film recorder of claim 1 further comprising an external illumination source configured to provide illumination to the one flat panel display; wherein the external illumination source is one of the group: LED, strobe lamp, digital light projector.
3. The film recorder of claim 2 wherein the external illumination source comprises one or more digital light projectors; and wherein the one or more digital light projectors project hex chromatic color space images.
4. The film recorder of claim 2 further comprising:
 - a second flat panel display device configured to display a second color component image associated with the image;
 - a third flat panel display device configured to display a third color component image associated with the image; and
 - an optical combiner coupled to the one flat panel display, to the second flat panel display, and to the third flat panel display, the optical combiner configured to optically combine the first color component image, the second color component image, and the third color component image to form a composite image.
5. The film recorder of claim 4 wherein the film recording device exposes the frame of film media to the composite image.
6. The film recorder of claim 5 further comprising wherein the one flat panel display is monochromatic.
7. The film recorder of claim 4 further comprising a color filter coupled between the external illumination source and the one flat panel display, wherein the color filter is a color associated with a color component of the one color component image.

8. The film recorder of claim 2

wherein the one flat panel display is also configured to display the second color component image associated with the image and to display the third color component image associated with the image.

9. The film recorder of claim 8 wherein the film recording device exposes the frame of film media to the one color component image, then to the second color component image, and then to the third color component image.

10. The film recorder of claim 9 further comprising:

a plurality of color filters configured to be disposed between the one flat panel display and the frame of film media, wherein the plurality of color filters includes a first color filter, a second color filter, and a third color filter;

wherein the film recording device exposes the frame of film media to the first color component image through the first color filter; and wherein the film recording device exposes the frame of film media to the second color component image through the second color filter.

11. The film recorder of claim 1 wherein the one flat panel display is selected from the group: LCD, OLED display, plasma display, EL display.

12. A method for recording images onto film media comprises positioning at least one flat panel display with respect to an optical axis of a

film recording unit; displaying at least one color component image associated with an image on the one flat panel display; and exposing the film media to the one color component image on the one flat panel display.

13. The method of claim 12 further comprising providing illumination to the one flat panel display with an external illumination source selected from the group: LED, strobe lamp, digital light projector.

14. The method of claim 13

wherein the external illumination comprises more than one digital light projector; and

wherein the more than one digital light projector illuminate the one flat panel display with images in the RGB and CMY color space.

15. The method of claim 14 further comprising

displaying a second color component image associated with the image on the one flat panel display;
exposing the film media to the second color component image on the one flat panel display;
5 displaying a third color component image associated with the image on the one flat panel display; and
exposing the film media to the third color component image on the one flat panel display.

10 16. The method of claim 15
wherein before exposing the film media to the one color component image, disposing a first color filter between the one flat panel display and the film media; and
wherein before exposing the film media to the second color component image, disposing a second color filter between the one flat panel display and the film media.

15 17. The method of claim 12, wherein the flat panel display is a display from the group: LCD, OLED display, plasma display, EL display, silicon crystal display, LCOS display.

20 18. The method of claim 14 further comprising:
positioning a second flat panel display with respect to the optical axis of the film recording unit;
displaying a second color component image associated with the image on the second flat panel display;
25 exposing the film media to the second color component image on the second flat panel display;
positioning a third flat panel display with respect to the optical axis of the film recording unit;
displaying a third color component image associated with the image on the third flat panel display; and
30 exposing the film media to the third color component image on the third flat panel display.

35 19. The method of claim 18 further comprising:
combining the first color component image, the second color component image and the third color component image to form a composite image; and
exposing the film media to the composite image comprising: exposing the film media to the first color component image on the one flat panel display, exposing the film media to the second color component image on the second flat panel display, and exposing
40 the film media to the third color component image on the third flat panel display.

20. The method of claim 19 wherein the external illumination source configured to provide illumination to the one flat panel display includes a color filter having a color appropriate for the one color component image.

21. The method of claim 20 wherein the color is selected from the group: red, green, blue; cyan, yellow, magenta.

22. The method of claim 19 further comprising
positioning the second flat panel display with respect to the optical axis of the
film recording unit; and
positioning the third flat panel display with respect to the optical axis of the
film recording unit;
wherein combining the first color component image, the second color
component image and the third color component image to form a composite image comprises
using an optical combiner to form the composite image.

23. The method of claim 15 further comprising:
making a release print in response to the film media; and
displaying the release print to an audience.

24. A method for forming a recorded film media comprises:
displaying an image of one component color image of a image on a first digital
flat panel display;
aligning an optical axis of a film recorder to be substantially parallel to an
optical axis of the first digital flat panel display;
controlling a shutter of the film recorder to expose a frame of film media with
the image of one component color image of the image.

25. The method of claim 24 wherein the first digital flat panel display is
selected from the group: LCD, OLED, plasma, EL, silicon crystal display, LCOS display.

26. The method of claim 24 further comprising:
illuminating the first digital flat panel display with an external illumination
source,
wherein the external illumination source one of the group: white LED, colored
LED, LED array, strobe lamp, array of strobe lamps, digital light projector.

27. The method of claim 26 further comprising:
displaying an image of a second component color image of the image on a
second digital flat panel display;

aligning an optical axis of the first digital flat panel display with the optical axis of the film recorder; and
wherein controlling the shutter of the film recorder comprises controlling the shutter of the film recorder to expose the frame of unexposed film media with the image of first component color image of the image and the second component color image of the image at the same time.

28. The method of claim 27 wherein illuminating the first digital flat panel display with an external illumination source comprises providing a color filter appropriate for the first component color image between the external illumination source and the first digital flat panel display.

29. The method of claim 28 wherein a color of the color filter is selected from one of the group: red, green, blue; cyan, yellow, magenta.

30. The method of claim 25 further comprising displaying an image of a second component color image of the image on the first digital flat panel display; and
controlling the shutter of the film recorder to expose the frame of film media with the image of the second component color image of the image.

31. The method of claim 30 wherein before displaying the image of the second component color image, the method includes:
disposing a color filter between the first digital flat panel display and the film media;
wherein a color for the color filter is appropriate for the second component color image.

32. The method of claim 31 wherein the color is selected from one of the group: red, green, blue; cyan, yellow, magenta.

33. The method of claim 26 wherein illuminating the first digital flat panel display with the external illumination source comprises disposing a color filter between the external illumination source and the first digital flat panel display.

34. The method of claim 26 wherein illuminating the first digital flat panel display with the external illumination source comprises illuminating the first digital flat panel display with a first illumination source having a color appropriate for the first component color image.

35. The method of claim 34 wherein the first illumination source comprises red LEDs.